

In the Claims:

Please amend the claims to read as set forth in the following Listing of the Claims.

LISTING OF THE CLAIMS

1. (Previously Presented) A portable fluorescence correlation spectroscopy instrument comprising:
  - a sample flow chamber;
  - an excitation source;
  - at least one light focusing element positioned to receive light emitted by said excitation source;
  - a detector for detecting light, said detector positioned to receive light emitted by a sample excited by said excitation source; and
  - a correlator coupled to said detector, said correlator for processing data received at said detector and providing data comprising autocorrelation data, crosscorrelation data, or a combination thereof.
  
2. (Previously Presented) The instrument of claim 1, further comprising an emission filter positioned to transmit light to said detector, said emission filter adapted to transmit light having a wavelength range greater than the range of wavelengths emitted by said excitation source.
  
3. (Original) The instrument of claim 1, wherein said light focusing element comprises a fiber optic.
  
4. (Original) The instrument of claim 1, further comprising an aperture positioned to receive light emitted by a sample excited by said excitation source.
  
5. (Original) The instrument of claim 1, wherein said light focusing element comprises a focusing lens.

6. (Original) The instrument of claim 3, wherein said fiber optic is coupled to said excitation source.

7. (Original) The instrument of claim 1, further comprising a second light focusing element positioned to focus light emitted by said excitation source in a sample volume.

8. (Original) The instrument of claim 7, further comprising a fiber optic coupled to said excitation source and said first light focusing element.

9. (Previously Presented) The instrument of claim 1, further comprising a second light focusing element, said first light focusing element comprising a fiber optic having a first end disposed in said sample chamber, said second light focusing element being focused on the first end of said fiber optic.

10. (Canceled)

11. (Previously Presented) The instrument of claim 9 further comprising an emission filter positioned to receive light transmitted through said second light focusing element and to transmit said light to said detector.

12. (Original) The instrument of claim 1, wherein said light focusing element comprises a first fiber optic coupled to said excitation source, said instrument further comprising a second fiber optic positioned to receive light emitted by a sample excited by said excitation source.

13. (Original) The instrument of claim 12, wherein said second fiber optic is in a perpendicular relationship to said first fiber optic.

14. (Previously Presented) The instrument of claim 12, wherein said second fiber optic is in a linear axial relationship with said first fiber optic.

15. (Original) The instrument of claim 1 further comprising a second light focusing element, said first light focusing element being in a perpendicular relationship to said second light focusing element.

16. (Previously Presented) The instrument of claim 1 further comprising a second light focusing element, said first light focusing element being in a linear axial relationship with said second light focusing element.

17. (Original) The instrument of claim 12 further comprising an emission filter positioned to receive light from said second fiber optic and to transmit light to said detector.

18. (Original) The instrument of claim 4 further comprising an emission filter positioned to receive light from said aperture and to transmit light to said detector.

19. (Previously Presented) The instrument of claim 18 further comprising a third fiber optic positioned to transmit light from said emission filter to said detector.

20. (Previously Presented) The instrument of claim 1 wherein said light focusing element comprises a first fiber optic coupled to said excitation source, an end of said first fiber optic extending into said sample chamber, said instrument further comprising:

a second light focusing element; and  
an emission filter positioned to receive light from said second light focusing element and to transmit light to said detector.

21. (Original) The instrument of claim 20, wherein said second light focusing element is focused on said end of said fiber optic.

22. (Original) The instrument of claim 20, wherein said second light focusing element comprises a lens.

23. (Original) The instrument of claim 20, further comprising a second fiber optic positioned to receive light from said emission filter and to transmit light to said detector.

24. (Original) The instrument of claim 1, further comprising

a first dichromatic mirror positioned to receive light from said excitation source;

a second light focusing element positioned to receive light reflected from said dichromatic mirror;

a first aperture;

a third light focusing element positioned to receive light transmitted through said dichromatic mirror and through said first aperture; and

a second dichromatic mirror positioned to receive light transmitted through said third light focusing element.

said first detector being positioned to receive at least one of light reflected from said second dichromatic mirror and light transmitted through said dichromatic mirror.

Claims 25-37 (Canceled)

38.(Original) The instrument of claim 1, further comprising:

a first dichromatic mirror positioned to receive light from said excitation source;

a second light focusing element positioned to receive light reflected by said first dichromatic mirror;

a third light focusing element positioned to receive light transmitted through said dichromatic mirror;

a second dichromatic mirror positioned to receive light passing through said third light focusing element;

a first component comprising at least one of a first aperture and a first fiber optic; and

a first detector positioned to receive at least one of light reflected from said second dichromatic mirror through said first component and light transmitted through said second dichromatic mirror through said first component.

Claims 39-47 (Canceled).

48. (Original) The instrument of claim 1, further comprising:

a first dichromatic mirror positioned to receive light emitted by said excitation source;

a second light focusing element positioned to receive light reflected by said first dichromatic mirror; and

a first emission filter positioned to receive light transmitted through said first dichromatic mirror and to transmit light to said detector.

49. (Original) The instrument of claim 48 further comprising a fiber optic positioned to receive light from said first emission filter and to transmit light to said detector.

50. (Original) The instrument of claim 48 further comprising an aperture positioned to receive light from said first emission filter and to transmit light to said detector.

51. (Original) The instrument of claim 48 further comprising a first reflective mirror positioned to receive light reflected by said first dichromatic mirror and to reflect said light to said second light focusing element.

52.(Original) The instrument of claim 1, further comprising

a first fiber optic positioned to receive light emitted by a sample excited by said excitation source;

a beam splitter positioned to receive light from said first fiber optic;

a third fiber optic coupled to said beam splitter;

a first emission filter positioned to receive light from said third fiber optic;

a fourth fiber optic coupled to said beam splitter;  
a second emission filter positioned to receive light from said fourth fiber optic; and  
a second detector positioned to receive light from said second emission filter,  
said first detector being positioned to receive light from said first emission filter.

Claims 53-56 (Cancelled)

57. (Original) The instrument of claim 1, wherein said excitation source is a laser.

58. (Original) The instrument of claim 1, wherein said excitation source is a multi-line laser.

Claims 59 and 60 (Canceled)

61. (Original) The instrument of claim 1, further comprising an excitation light attenuation device.

62. (Previously Presented) The instrument of claim 61, wherein said excitation light attenuation device comprises a neutral density filter, a shutter, an acousto-optical coupler, a pockels cell, or a combination thereof.

63. (Previously Presented) A portable fluorescence correlation spectroscopy instrument comprising:

a chamber through which a liquid sample can flow, said chamber being positioned such that the confocal plane of said instrument is contained within said chamber;

a monochromatic light source;

a light focusing device adapted to focus light emitted by said monochromatic light source on a sample;  
a detector capable of detecting light;  
a fiber optic positioned to receive light emitted by a sample excited by said light source, said fiber optic being coupled to said detector; and  
a correlator coupled to said detector, said correlator being capable of processing data received at said detector and providing data comprising autocorrelation data, crosscorrelation data, or a combination thereof.

64. (Original) An article comprising:

a carrying case, and  
the portable fluorescence correlation spectroscopy instrument of claim 1 disposed in said carrying case.

Claims 65-69 (Canceled)

70. (Previously Presented) A portable fluorescence correlation spectroscopy instrument comprising:

a sample chamber;  
an excitation source;  
a first light focusing element comprising a fiber optic positioned to receive light emitted by said excitation source;  
a second light focusing element, said fiber optic having a first end disposed in said sample chamber, said second light focusing element being focused on the first end of said fiber optic;  
a detector for detecting light, said detector positioned to receive light emitted by a sample excited by said excitation source; and  
a correlator coupled to said detector, said correlator for processing data received at said detector and providing data comprising autocorrelation data, crosscorrelation data, or a combination thereof.